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EXAMINER	
WATT, CHRIS A	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/675,586	MAGDUM ET AL.	
	Examiner	Art Unit	
	Chris Watt	2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to the Amendment filed 12/11006.

2. Claims 1-51 are pending in this application. Claims 1, 15, 22, 36, 43, 45 and 46 are the independent claims. In the instant amendment, claims 47-51 were added, no claims were cancelled and no claims were amended. This action is made non-final.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grace et al. (US Patent Application Publication No. 2004/0075680) in view of Chang et al. ("Chang" US Patent Application Publication No. 2004/0051731) and Benhase et al. ("Benhase" US Patent Application Publication No. 2004/0243945).

As to claim 1, Grace teaches a method of displaying management information associated with a storage area network (i.e. "the invention relates to graphical user interfaces for managing ... storage area networks (SANs) and the like" [0010], "such information can be displayed in diagram form or in table form [0012]), the method comprising receiving an identity of a selected managed entity existing in a storage area network (i.e. "determining ... the presence of a first device" [0013]), retrieving a first managed object (i.e. "queries the network to determine what devices are present in the network" [0011]) from a management database that corresponds to the selected

managed entity (i.e. "the interconnections of such devices ... are stored" [0011]), identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a relationship view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of Chang into the management information display of Grace. Said artisan would have been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a relationship view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS. 3-5 et seq. of Benhase). It would have been obvious to an artisan at the

time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 15, Grace teaches a method for displaying management information associated with a storage area network (i.e. "the invention relates to graphical user interfaces for managing ... storage area networks (SANs) and the like" [0010], "such information can be displayed in diagram form or in table form [0012]), the method comprising displaying multiple icons representing corresponding managed entities in the storage area network, the multiple icons including at least one software icon associated with a managed software entity and at least one hardware icon associated with a managed hardware entity (i.e. "a user can select the type of information, the order of the items and the level of detail that is desired", "may refer as examples, to any devices or software associated with a computer network" [0043]). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of

Chang into the management information display of Grace. Said artisan would have been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS. 3-5 et seq. of Benhase). It would have been obvious to an artisan at the time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 22, Grace teaches a computer system for supporting relationship views associated with a storage area network (i.e. "the invention relates to graphical user interfaces for managing ... storage area networks (SANs) and the like" [0010], "such information can be displayed in diagram form or in table form [0012]), the computer system comprising a processor, a memory unit that stores instructions associated with an application executed by the processor, a communication interface that supports communication with other nodes of the storage area network and an interconnect coupling the processor, the memory unit, and the communication interface (i.e. "computing, data storage, and communications networks are just a few examples of networks for which new devices and methods of sharing data are continually developed and improved" [0004]), enabling the computer system to execute the application and

perform operations of receiving an identity of a selected managed entity existing in a storage area network (i.e. "determining ... the presence of a first device" [0013]), retrieving a first managed object (i.e. "queries the network to determine what devices are present in the network" [0011]) from a management database that corresponds to the selected managed entity (i.e. "the interconnections of such devices ... are stored" [0011]), identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]) and graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network (i.e. "displaying on a graphical user interface a primary device and a set of secondary devices coupled to the primary device" [0014], also note network layout in FIGS. 2-3). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of

Chang into the management information display of Grace. Said artisan would have been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS. 3-5 et seq. of Benhase). It would have been obvious to an artisan at the time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 36, Grace teaches a computer system for displaying relationship views associated with a storage area network (i.e. "the invention relates to graphical user interfaces for managing ... storage area networks (SANs) and the like" [0010], "such information can be displayed in diagram form or in table form [0012]), the computer system comprising a processor, a memory unit that stores instructions associated with an application executed by the processor, a communication interface that supports communication with nodes of the storage area network, and an interconnect coupling the processor, the memory unit, and the communication interface (i.e. "computing, data storage, and communications networks are just a few examples of networks for which new devices and methods of sharing data are continually developed and improved" [0004]), enabling the computer system to execute the application and perform

operations of displaying multiple icons representing corresponding managed entities in the storage area network (i.e. "displaying on a graphical user interface a primary device and a set of secondary devices coupled to the primary device" [0014], also note network of corresponding devices in FIGS. 2-3), the multiple icons including at least one software icon associated with a managed software entity and at least one hardware icon associated with a managed hardware entity (i.e. "a user can select the type of information, the order of the items and the level of detail that is desired", "may refer as examples, to any devices or software associated with a computer network" [0043]). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of Chang into the management information display of Grace. Said artisan would have been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS.

3-5 et seq. of Benhase). It would have been obvious to an artisan at the time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 43, Grace teaches a method of displaying management information associated with a storage area network (i.e. "the invention relates to graphical user interfaces for managing ... storage area networks (SANs) and the like" [0010], "such information can be displayed in diagram form or in table form [0012]), the method comprising receiving an identity of a selected managed entity (i.e. "determining ... the presence of a first device" [0013]) existing in a storage retrieving a first managed object (i.e. "queries the network to determine what devices are present in the network" [0011]) from a management database that corresponds to the selected managed entity (i.e. "the interconnections of such devices ... are stored" [0011]), identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]) and graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network (i.e. "displaying on a graphical user interface a primary device and a set of secondary devices coupled to the

primary device" [0014], also note network layout in FIGS. 2-3). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of Chang into the management information display of Grace. Said artisan would have been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS. 3-5 et seq. of Benhase). It would have been obvious to an artisan at the time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 45, Grace teaches a computer program product including a computer-readable medium having instructions stored thereon for processing data information (i.e.

"computing, data storage, and communications networks are just a few examples of networks for which new devices and methods of sharing data are continually developed and improved" [0004]), such that the instructions, when carried out by a processing device, enable the processing device to perform the steps of receiving an identity of a selected managed entity existing in a storage area network (i.e. "determining ... the presence of a first device" [0013]), retrieving a first managed object (i.e. "queries the network to determine what devices are present in the network" [0011]) from a management database that corresponds to the selected managed entity (i.e. "the interconnections of such devices ... are stored" [0011]), identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]), and graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network (i.e. "displaying on a graphical user interface a primary device and a set of secondary devices coupled to the primary device" [0014], also note network layout in FIGS. 2-3). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a relationship view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of Chang into the management information display of Grace. Said artisan would have been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS. 3-5 et seq. of Benhase). It would have been obvious to an artisan at the time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 46, Grace teaches a computer system for supporting relationship views associated with a storage area network (i.e. "the invention relates to graphical user interfaces for managing ... storage area networks (SANs) and the like" [0010], "such information can be displayed in diagram form or in table form [0012]), the computer system including means for receiving an identity of a selected managed entity existing in a storage area network (i.e. "determining ... the presence of a first device" [0013]),

means for retrieving a first managed object (i.e. "queries the network to determine what devices are present in the network" [0011]) from a management database that corresponds to the selected managed entity (i.e. "the interconnections of such devices ... are stored" [0011]), means for identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]) and means for graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network (i.e. "displaying on a graphical user interface a primary device and a set of secondary devices coupled to the primary device" [0014], also note network layout in FIGS. 2-3). Grace does not teach at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons, or a view of selected managed entities of a storage area network based on use of columns of icons.

Chang teaches at least a portion of the sequence of relationships being graphically represented by relationship paths between the icons (i.e. compare graphical relationships in FIG. 19 with "Software Application Domain" and "Storage Domain" in FIG. 1 et seq. of Chang). It would have been obvious to an artisan at the time of the invention to integrate the graphical representation of software or storage entities of Chang into the management information display of Grace. Said artisan would have

been motivated to combine Chang into Grace so that users are able to view data collected by application and storage systems and view a representation of the data path between them (i.e. see [0003] et seq. of Chang).

Benhase teaches a view of selected managed entities of a storage area network based on use of columns of icons (i.e. relationship of resources based on icons in FIGS. 3-5 et seq. of Benhase). It would have been obvious to an artisan at the time of the invention to integrate the columns of icons of Benhase into the management information display of Grace as modified by Chang. Said artisan would have been motivated to combine Benhase into the modified Grace to be able to quickly identify available resources and to monitor progress (i.e. see [0005] et seq. of Benhase).

As to claim 2, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising extracting information from the first managed object associated with the selected managed entity, extracting information from other managed objects associated with other managed entities in the storage area network (i.e. "queries the network" [0011], "the invention provides a simplified means of managing large numbers of parameters associated with devices in such networks" [0010]), storing the information extracted from the first managed object and the other managed objects in corresponding data structures (i.e. "the interconnections of such devices ... are stored" [0011]), generating a horizontally disposed first relationship view of adjacently positioned columns including the first column of at least one icon, the second column of at least one icons (i.e. "rendering an expandable symbol", "first and second sets of devices in a first column" Claim 48, also note columns of icons in FIGS.

6-12 and column-like layout of FIGS. 2-3; see also FIGS. 3-5 et seq. of Benhase), and corresponding relationship paths from the perspective of an icon representing the selected managed entity (i.e. "the system includes a computer or user interface circuit ... wherein a first device and a first set of devices coupled to the first device are displayed" [0015], also note single and multiple paths between managed entities in FIGS. 2 and 3; see also graphical relationships in FIG. 19 et seq. of Chang).

Claim 23 is similar in scope to claim 2, and is therefore rejected under similar rationale.

As to claim 3, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising displaying the first column of at least one icon and the second column of at least one icon on a display screen for a manager of the storage area network (i.e. "rendering an expandable symbol", "first and second sets of devices in a first column" Claim 48, also note columns of icons in FIGS. 6-12 and column-like layout of FIGS. 2-3; see also FIGS. 3-5 et seq. of Benhase), providing a viewer controlled device supporting movement of a corresponding pointer on the display screen (i.e. "means by which an operator can change the status of the program, such as a keyboard or a mouse" [0035]), and highlighting a relationship path in a vicinity of the pointer on the display screen to emphasize a corresponding relationship between managed entities represented by icons in the first and second columns (i.e. "the SAN symbol is highlighted to indicate its selection, together with the Summary Option ... represents a comparison of the network" [0053]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 24 is similar in scope to claim 3, and is therefore rejected under similar rationale.

As to claim 4, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising allocating a visual region in relation to a corresponding icon to receive input commands and in response to detecting receipt of a generated input command in the visual region by a user, expanding the first relationship view of managed entities in the storage area network into an expanded relationship view (i.e. "expandable symbols that can be navigated to explore the structure of a network" [0012]) including a third column of multiple icons disposed between the first column and the second column (i.e. "uses columns to the right of the parameter to report name value pairs corresponding to additional information relating to the parameter" [0050], , "a user can select ... the order of the items" [0043]), relationship paths being displayed between icons in the first column and the third column and between icons in the third column and the second column (i.e. "the system includes a computer or user interface circuit ... wherein a first device and a first set of devices coupled to the first device are displayed" [0015], also note single and multiple paths between managed entities in FIGS. 2 and 3), the icons in the third column representing other previously hidden managed entities associated with the storage area network (i.e. "uses columns to the right of the parameter to report name value pairs corresponding to additional information relating to the parameter" [0050], , "a user can select ... the order of the items" [0043]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 25 is similar in scope to claim 4, and is therefore rejected under similar rationale.

As to claim 5, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising utilizing references in the first managed object associated with the selected managed entity to identify the other managed entities related to the selected managed entity (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 26 is similar in scope to claim 5, and is therefore rejected under similar rationale.

As to claim 6, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising displaying a first container encompassing at least one of the columns and corresponding icons (i.e. multiple interface window 606, see also [0048]) to represent at least one of the following: a database, a file system, a volume, a host server, a storage disk (i.e. hosts 124, 126 and 152, "It is understood that this is a very simplified view of a SAN 100 with representative storage devices and hosts coupled to the fabric 102. It is understood that quite often significantly more devices and switches are used to develop the full SAN 100" [0034]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 27 is similar in scope to claim 6, and is therefore rejected under similar rationale.

As to claim 7, Grace, in combination with Chang and Benhase teaches a method as in claim 1, wherein graphically displaying the first relationship view includes: displaying a first container encompassing at least one of the columns and corresponding icons and displaying a second container encompassing at least two of the columns and corresponding icons and the first container (i.e. multiple interface window 606, see also [0048]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 28 is similar in scope to claim 7, and is therefore rejected under similar rationale.

As to claim 8, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising from the first relationship view including at least the first column and second column displayed in a first area of a display screen (i.e. multiple interface window 606, see also [0048]), detecting a user selection of a particular icon in the first area, and in response to detecting the user selection of the particular icon in the first area, generating a second relationship view in a second area of the display screen, the second relationship view including a presentation of relationships between a managed entity associated with the particular icon and other associated nearest neighboring managed entities in the storage area network (i.e. "expandable symbols 804 representing network devices and details 806 of a user selected symbol 808", "the Detail Option 852 of the Details display 806 is selected such that various details are provided with respect to the selected symbol" [0056]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 29 is similar in scope to claim 8, and is therefore rejected under similar rationale.

As to claim 9, Grace, in combination with Chang and Benhase teaches a method as in claim 8, wherein the second relationship view is generated in response to a viewer dragging and dropping the particular icon from the first area to the second area of the display screen (i.e. "means by which an operator can change the status of the program, such as a keyboard or a mouse" [0035]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 30 is similar in scope to claim 9, and is therefore rejected under similar rationale.

As to claim 10, Grace, in combination with Chang and Benhase teaches a method as in claim 8 further comprising maintaining the display screen to include a third area to display a vertical hierarchy of managed entities associated with the storage area network (i.e. "includes an expandable tree diagram of expandable symbols that can be navigated to explore the structure of a network" [0012]), providing selectable input fields in relation to entries in the vertical hierarchy for selection of a managed entity in the storage area network and in response to detecting selection of a particular entry in the vertical hierarchy, generating the first relationship view from the perspective of a corresponding selected managed entity (i.e. "other portions of the user interface (e.g., windows) can include a summary of a symbol of the tree diagram that is selected by a user, and an event log displaying a running history of network connectivity and

configuration changes that are detected [0012]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 31 is similar in scope to claim 10, and is therefore rejected under similar rationale.

As to claim 11, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising maintaining a database of objects (i.e. "the interconnections of such devices ... are stored" [0011]) identifying relationships between the managed entities via collection of information from agents distributed throughout the storage area network (i.e. "to determine what devices are present in the network and the interconnections of such devices" [0011], "determining ... the connection of a first set of devices to the first device" [0013]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 32 is similar in scope to claim 11, and is therefore rejected under similar rationale.

As to claim 12, Grace, in combination with Chang and Benhase teaches a method as in claim 1 further comprising maintaining a display screen to include an area to display a vertical hierarchy of managed entities associated with the storage area network (i.e. "includes an expandable tree diagram of expandable symbols that can be navigated to explore the structure of a network" [0012]), providing selectable input fields in relation to entries in the vertical hierarchy for selection of a managed entity in the storage area network, and in response to detecting selection of a particular entry in the vertical hierarchy, generating the first relationship view from the perspective of a

corresponding selected managed entity (i.e. "other portions of the user interface (e.g., windows) can include a summary of a symbol of the tree diagram that is selected by a user, and an event log displaying a running history of network connectivity and configuration changes that are detected [0012]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 33 is similar in scope to claim 12, and is therefore rejected under similar rationale.

As to claim 13, Grace, in combination with Chang and Benhase teaches a method as in claim 1, wherein the first relationship view identifies a mapping between a file system of a host server and a corresponding storage disk of the storage area network (i.e. hosts 124, 126 and 152, "It is understood that this is a very simplified view of a SAN 100 with representative storage devices and hosts coupled to the fabric 102. It is understood that quite often significantly more devices and switches are used to develop the full SAN 100" [0034]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 34 is similar in scope to claim 13, and is therefore rejected under similar rationale.

As to claim 14, Grace, in combination with Chang and Benhase teaches a method as in claim 1, wherein the first relationship view includes different types of icons (i.e. "expandable symbols that can be navigated to explore the structure of a network" [0012]), each type of the different type of icons being represented by a corresponding symbol that identities a type of managed entity associated with the storage area

network (i.e. "symbols representing elements of the network are displayed on the graphical user interface" [0011]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 35 is similar in scope to claim 14, and is therefore rejected under similar rationale.

As to claim 16, Grace, in combination with Chang and Benhase teaches a method as in claim 15 further comprising, in relation to a first icon of the multiple icons, maintaining a visual region associated with the first icon to receive input commands from a user indicating to expand and display hidden attributes associated with a corresponding managed entity associated with the first icon (i.e. "expandable symbols that can be navigated to explore the structure of a network" [0012]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 37 is similar in scope to claim 16, and is therefore rejected under similar rationale.

As to claim 17, Grace, in combination with Chang and Benhase teaches a method as in claim 16 further comprising, in response to detecting an input command signal received in the visual region, displaying an expanded relationship view of managed entities associated with the first icon (i.e. "expandable symbols that can be navigated to explore the structure of a network" [0012]), the expanded relationship view including: i) additional icons associated with other managed entities in the storage area network, and ii) additional relationship paths between the additional icons and other previously displayed icons (i.e. "other portions of the user interface (e.g., windows) can

include a summary of a symbol of the tree diagram that is selected by a user, and an event log displaying a running history of network connectivity and configuration changes that are detected [0012]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 38 is similar in scope to claim 17, and is therefore rejected under similar rationale.

As to claim 18, Grace, in combination with Chang and Benhase teaches a method as in claim 17 further comprising displaying a graphical container encompassing the first icon (i.e. multiple interface windows 606, see also [0048]) and the expanded relationship view of the managed entity associated with the first icon (i.e. "expandable symbols that can be navigated to explore the structure of a network" [0012]) to indicate that the additional icons and corresponding managed entities are related to the first icon and corresponding managed entity (i.e. "other portions of the user interface (e.g., windows) can include a summary of a symbol of the tree diagram that is selected by a user, and an event log displaying a running history of network connectivity and configuration changes that are detected [0012]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 39 is similar in scope to claim 18, and is therefore rejected under similar rationale.

As to claim 19, Grace, in combination with Chang and Benhase teaches a method as in claim 15 further comprising displaying nested graphical containers encompassing different sets of icons to delineate corresponding functional components

(i.e. multiple interface windows 606, see also [0048]) associated with a host server of the storage area network (i.e. hosts 124, 126 and 152, "It is understood that this is a very simplified view of a SAN 100 with representative storage devices and hosts coupled to the fabric 102. It is understood that quite often significantly more devices and switches are used to develop the full SAN 100" [0034]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 40 is similar in scope to claim 19, and is therefore rejected under similar rationale.

As to claim 20, Grace, in combination with Chang and Benhase teaches a method as in claim 15 further comprising displaying a first graphical container encompassing icons representing managed entities associated with a host server of the storage area network, displaying a second graphical container encompassing icons representing managed entities associated with a storage device of the storage area network (i.e. multiple interface windows 606, see also [0048]) and displaying relationship paths between icons in the first graphical container and icons in the second graphical container to indicate a device mapping between the host server and the storage device (i.e. hosts 124, 126 and 152, "It is understood that this is a very simplified view of a SAN 100 with representative storage devices and hosts coupled to the fabric 102. It is understood that quite often significantly more devices and switches are used to develop the full SAN 100" [0034]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 41 is similar in scope to claim 20, and is therefore rejected under similar rationale.

As to claim 21, Grace, in combination with Chang and Benhase teaches a method as in claim 15, wherein a first icon of the multiple icons identifies a file system and a second icon of the multiple icons identities at least part of a storage device, and relationship paths between the first icon and second icon identify a mapping between the file system and storage device (i.e. hosts 124, 126 and 152, "It is understood that this is a very simplified view of a SAN 100 with representative storage devices and hosts coupled to the fabric 102. It is understood that quite often significantly more devices and switches are used to develop the full SAN 100" [0034]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Claim 42 is similar in scope to claim 21, and is therefore rejected under similar rationale.

As to claim 44, Grace, in combination with Chang and Benhase teaches a method as in claim 43 further comprising graphically displaying a first container encompassing the first column to identify a host server of the storage area network (i.e. hosts 124, 126 and 152, "It is understood that this is a very simplified view of a SAN 100 with representative storage devices and hosts coupled to the fabric 102. It is understood that quite often significantly more devices and switches are used to develop the full SAN 100" [0034])and graphically displaying a second container encompassing at least the third column to identify a storage device (i.e. "uses columns to the right of the parameter to report name value pairs corresponding to additional information

relating to the parameter" [0050], , "a user can select ... the order of the items" [0043]; see also FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Regarding dependent claim 47, Grace, in combination with Chang and Benhase teaches a method as in claim 15, wherein displaying the at least one hardware icon in the second column includes displaying multiple hardware icons in the second column; and wherein displaying associations includes providing multiple relationship paths between the at least one software icon in the first column and each of the multiple hardware icons in the second column to indicate where data represented by the at least one software icon in the first column is stored in corresponding hardware devices which are represented by the multiple hardware icons in the second column (i.e. compare FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Regarding dependent claim 48, Grace, in combination with Chang and Benhase teaches a method as in claim 47, wherein displaying multiple hardware icons in the second column includes displaying similar types of corresponding symbols in the second column to indicate that the corresponding hardware devices are of the same type (i.e. compare icons in FIGS. 3-4 et seq. of Benhase).

Regarding dependent claim 49, Grace, in combination with Chang and Benhase teaches a method as in claim 48 further comprising: displaying unique identification information associated with the at least one software icon in the first column; and displaying unique identification information associated with each of the multiple

hardware icons in the second column (i.e. compare FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Regarding dependent claim 50, Grace, in combination with Chang and Benhase teaches a method as in claim 15, wherein displaying the at least one software icon in the first column includes displaying multiple software managed entities as respective software icons in the first column; wherein displaying the at least one hardware icon in the second column includes displaying multiple hardware managed entities as respective hardware icons in the second column; and wherein displaying associations includes providing at least two horizontal relationship paths between the respective software icons in the first column and the respective hardware icons in the second column (i.e. compare FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Regarding dependent claim 51, Grace, in combination with Chang and Benhase teaches a method as in claim 50, wherein displaying the associations includes: displaying a first relationship path of the at least two relationship paths from a first software icon in the first column to a first hardware icon in the second column; and displaying a second relationship path of the at least two relationship paths from a second software icon in the first column to a second hardware icon in the second column (i.e. compare FIGS. 3-5 et seq. of Benhase and graphical relationships in FIG. 19 et seq. of Chang).

Response to Arguments

Applicant's arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris Watt whose telephone number is (571) 270-1046. The examiner can normally be reached on Monday-Thursday 6:30-4:00 Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on (571) 272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chris A. Watt/ June 11, 2007

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